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EXAMINER	
WONG, WARNER	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,208	BRYDEN ET AL.	
	Examiner	Art Unit	
	Warner Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-5, 8-9, 11-14, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (2004/0202171) in view of Arndt (5,708,654).

Regarding claim 1, Hama describes a virtual private network (VPN) (fig. 27, VPNs A & B) comprising customer edge (CE) devices each having a provider edge (PE) interface (fig. 27, #12-14, 25-28), wherein one of the PE interfaces (to a CE) has a single layer 3 address (fig. 26, routers' network addresses of 192.168.0.x, 192.168.1.x and ZZZ.ZZZ.Z.Z) and supports a multiplex of layer 2 virtual circuits for communication with remote CE devices (paragraphs 3 and 30, where the VPN supports different VLAN-based layer 2 MAC frames).

Hama lacks what Arndt describes: an address resolution method (ARP - Address resolution Protocol) comprising:

sending an address resolution request message, including a layer 3 address of a remote CE device (target IP address), through the LAN (PE) interface over each layer 2 virtual circuit of the multiplex (broadcast) (col. 2, lines 25-29);

in response to reception of a message (ARP response) responding to the request message (ARP request) at the LAN (PE) interface [on one of the layer 2 virtual circuits],

mapping the IP (layer 3) address of said remote CE device to the MAC address (layer 2 virtual circuits) (col. 2, lines 22-31).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use the standardized ARP protocol as described by Ardnt in the network of Hama. The motivation being that the ARP protocol is used to retrieve and map IP-to-MAC addresses which eliminates latter message broadcasting [in Ethernet] by specifying the destination with an appropriate MAC address.

Regarding claim 2, Hama and Arndt combined describe all limitations set forth in claim 1. Hama further describes that the VPN is provided through a shared network infrastructure (fig. 27, MPLS network #11) to which the CE devices are connected by their respective PE interfaces.

Regarding claim 3, Hama and Arndt combined describe all limitations set forth in claim 2. Hama further describes that each layer 2 virtual circuit (VLAN-based MAC frames) of the multiplex is provisioned in the shared network infrastructure for communication with a respective remote CE device of the VPN (paragraph 30, where VLAN-based VPN supporting layer 2 MAC frames resides (provisioned) in a shared network infrastructure as depicted in fig. 21 and 27).

Regarding claim 4, Hama and Arndt combined describe all limitations set forth in claim 1. Hama further describes that the PE device belongs to a CE device including a layer 3 router of the VPN (fig. 27, #12-14, 25-28, where the CE device is an edge (inherently layer 3) router [paragraph 28]).

Regarding claim 5, Hama and Arndt combined describe all limitations set forth in claim 1. Hama further describes that the MAC frames (layer 2 virtual circuits) of the multiplex are distinguished by respective virtual local area network identifiers (VID) included in tagged data frames exchanged through the PE interface (fig. 20, VID field).

Regarding claim 8, Hama and Arndt combined describe all limitations set forth in claim 1. Ardnt further describes that the address resolution method (for Hama's CE-PE interface) is intended for Ethernet network (col. 1, lines 32-42). Hence the PE interface is inherently an Ethernet interface.

Regarding claim 9, Hama and Arndt combined describe all limitations set forth in claim 8. Ardnt further describes that the address resolution request and response messages are inherently messages of a standard Ethernet Address Resolution Protocol (ARP) (col. 1, lines 32-42 and col. 2, lines 25-31).

Regarding claim 11, Hama describes a customer edge (CE) device (fig. 27, 25-28) in a virtual private network (VPN) (fig. 27, VPNs A & B), comprising:

a provider edge (PE) interface (fig. 27, #12-14, 25-28), [each] having a single layer 3 address (fig. 26, routers' network addresses of 192.168.0.x, 192.168.1.x and ZZZ.ZZZ.Z.Z) in the VPN and supporting a multiplex of layer 2 virtual circuits (paragraphs 3 and 30, where the VPN supports different VLAN-based layer 2 MAC frames).

Hama lack what Arndt describes:

means for transmitting, on each of the layer 2 virtual circuits of the LAN (PE) interface (broadcast), an address resolution request message including a layer 3 address of a remote CE device of the VPN (target IP address) (col. 2, lines 25-29);

means responsive to reception of an address resolution (ARP) response message [on one of the layer 2 virtual circuits], for mapping the IP (layer 3) address of said remote CE device to the MAC address (layer 2 virtual circuits) (col. 2, lines 22-31).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use the standardized ARP protocol as described by Ardnt in the network of Hama. The motivation being that the ARP protocol is used to retrieve and map IP-to-MAC addresses which eliminates latter message broadcasting [in Ethernet] by specifying the destination with an appropriate MAC address.

Regarding claim 12, Hama and Arndt combined describe all limitations set forth in claim 11. Hama further describes that the PE device (fig. 27, #12-14) is for connection to a shared network infrastructure (fig. 27, MPLS network #11) in which each layer 2 virtual circuit of the multiplex is provisioned for communication with a respective remote CE device of the VPN (paragraph 30, where VLAN-based VPN supporting layer 2 MAC frames resides (provisioned) in a shared network infrastructure as depicted in fig. 21 and 27).

Regarding claim 13, Hama and Arndt combined describe all limitations set forth in claim 11. Hama further describes that the CE device comprises a layer 3 router of the VPN (fig. 27, #12-14, 25-28, where the CE device is an edge (inherently layer 3) router [paragraph 28]).

Regarding claim 14, Hama and Arndt combined describe all limitations set forth in claim 11. Hama further describes that the MAC frames (layer 2 virtual circuits) of the multiplex are distinguished by respective virtual local area network identifiers (VID) included in tagged data frames exchanged through the PE interface (fig. 20, VID field).

Regarding claim 17, Hama and Arndt combined describe all limitations set forth in claim 11. Ardnt further describes that the address resolution method (for Hama's CE-PE interface) is intended for Ethernet network (col. 1, lines 32-42). Hence the PE interface is inherently an Ethernet interface.

Regarding claim 18, Hama and Arndt combined describe all limitations set forth in claim 17. Ardnt further describes that the address resolution request and response messages are inherently messages of a standard Ethernet Address Resolution Protocol (ARP) (col. 1, lines 32-42 and col. 2, lines 25-31).

3. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama in view of Arndt as applied to claim 5 and 14 above respectively, and further in view of Belser (6,151,324).

Regarding claim 6, Hama and Arndt combined describe all limitations set forth in claim 5. Hama and Arndt lack what Belser describes: the step of mapping the layer 3 (IP) address of the remote CE device to the layer 2 virtual circuits (MAC addresses) comprises memorizing a correspondence (mapping into cache) between the layer 3 (IP) address and the VID of the layer 2 virtual circuit (fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the mapping between IP and VID along with the MAC address. The motivation being that "a VLAN implementation which allows VLAN assignments to end systems [VID mappings], as well as ports, provides a more effective means of LAN groupings", col. 1, lines 42-44.

Regarding claim 15, Hama and Arndt combined describe all limitations set forth in claim 14. Hama and Arndt lack what Belser describes: the means for mapping the layer 3 (IP) address of the remote CE device to the layer 2 virtual circuits (MAC addresses) comprises means for storing a correspondence (mapping into cache) between the layer 3 (IP) address and the VID of the layer 2 virtual circuit (fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the mapping between IP and VID along with the MAC address. The motivation being that "a VLAN implementation which allows VLAN assignments to end systems [VID mappings], as well as ports, provides a more effective means of LAN groupings", col. 1, lines 42-44.

4. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama in view of Arndt as applied to claims 1 and 11 above respectively, and further in view of Fairhurst's ("Address Rsolution Protocol, ARP" website description).

Regarding claim 7, Hama and Arndt combined describe all limitations set forth in claim 1. Hama and Arndt lack what Fairhurst specifically describes as the

standardized ARP format: the [ARP] response/reply message includes the target IP (remote layer 3) address (figure for ARP message format).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the target IP address in the address resolution response message of the ARP protocol. The motivation being that the method may conform to the standardized (IPv4) Ethernet-based ARP protocol, which is agreed and supported by many commercial products.

Regarding claim 16, Hama and Arndt combined describe all limitations set forth in claim 11. Hama and Arndt lack what Fairhurst specifically describes as the standardized ARP format: the [ARP] response/reply message includes the target IP (remote layer 3) address (figure for ARP message format).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the target IP address in the address resolution response message of the ARP protocol. The motivation being that the device may conform to the standardized (IPv4) Ethernet-based ARP protocol, which is agreed and supported by many commercial products.

5. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama in view of Arndt as applied to claims 1 and 11 above respectively, and further in view of Mo (2002/0181477).

Regarding claim 10, Hama and Arndt combined describe all limitations set forth in claim 1. Hama and Arndt lack what Mo describes: the VPN has a hub-and-spoke

topology, with the PE interfaces (fig. 1, #12 & 14) at a hub site and the remote CE devices (fig. 1, #24, 26, 28) at spoke sites (also described in paragraph 15).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the hub-and-spoke topology of Mo with the CE (PE interface) at the hub site in the network of Hama and Arndt. The motivation being that using the hub-and-spoke topology, the network may efficiently perform the following VPN-related task: "The VRF [VPN Routing and Forwarding] table at the hub site distributes all of the routes in its VRF table with a hub attribute that causes the routes to be imported by the spoke sites" (paragraph 5).

Regarding Claim 19, Hama and Arndt combined describe all limitations set forth in claim 1. Hama and Arndt lack what Mo describes: the CE (fig. 1, #12) is at a hub site of the VPN and having a hub-and-spoke topology (paragraph 15).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the hub-and-spoke topology of Mo with the CE at the hub site in the network of Hama and Arndt. The motivation being that using the hub-and-spoke topology, the network may efficiently perform the following VPN-related task: "The VRF [VPN Routing and Forwarding] table at the hub site distributes all of the routes in its VRF table with a hub attribute that causes the routes to be imported by the spoke sites" (paragraph 5).

6. Claims 20-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama in view of Arndt, and further in view of Belser (6,151,324).

Regarding claim 20, Hama describes a virtual private network (VPN) (fig. 27, VPNs A & B) through a shared network infrastructure (fig. 27, MPLS network #11), the VPN comprising a plurality of customer edge (CE) devices each having a provider edge (PE) interface (fig. 27, #12-14, 25-28) for connection to the shared network infrastructure (MPLS), wherein a respective layer 3 address is allocated to each CE device (router) of the VPN (fig. 26, routers' network addresses of 192.168.0.x, 192.168.1.x and ZZZ.ZZZ.Z.Z), wherein [each] (first) CE device of the VPN having a layer 3 router (fig. 27, #25-28, where each CE device is an edge (inherently layer 3) router [paragraph 28]) and a PE interface (fig. 27, #12-14, 25-28) supporting a multiplex of layer 2 virtual circuits (paragraphs 3 and 30, where the VPN supports different VLAN-based layer 2 MAC frames), wherein each of the MAC frames (layer 2 virtual circuits) is distinguished by a respective virtual local area network identifier (VID) included in tagged data frames exchanged through the PE interface (fig. 20, VID field) and is provisioned in the shared network infrastructure for communication with a respective remote CE device of the VPN (paragraph 30, where VLAN-based VPN supporting layer 2 MAC frames resides (provisioned) in a shared network infrastructure as depicted in fig. 21 and 27).

Hama lacks what Arndt describes: an (address resolution) method comprising:

transmitting an address resolution (ARP) request message from the source device (first CE device) as a broadcast [on each of the layer 2 virtual circuits of the PE interface] the ARP request message including the target IP (layer 3) address allocated to a target device (second CE device) [of the VPN] (col. 2, lines 22-29);

in response to reception of the (ARP) request message at the target device (second CE device), returning an (ARP) response/reply message to the source device (first CE device) (col. 2, lines 29-31).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use the standardized ARP protocol as described by Ardnt in the network of Hama. The motivation being that the ARP protocol is used to retrieve and map IP-to-MAC addresses which eliminates latter message broadcasting [in Ethernet] by specifying the destination with an appropriate MAC address.

Hama and Arndt combined lack what Belser describes:

[in response to reception of the (ARP) response message at the source device (first CE device)], memorizing a correspondence (mapping into cache) between the layer 3 (IP) address [allocated to the second CE device] and the VID of the layer 2 virtual circuit (fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the mapping between remote IP and VID along with the MAC address. The motivation being that "a VLAN implementation which allows VLAN assignments to end systems [VID mappings],, as well as ports, provides a more effective means of LAN groupings", col. 1, lines 42-44.

Regarding claim 21, Hama, Arndt and Belser combined describe all limitations set forth in claim 20. Hama, Arndt and Belser further describe that the address resolution (ARP) response message includes the layer 3 (IP) address [allocated to the second CE device in Hama, fig. 27, CE #26] and the VID of the MAC address (layer 2

virtual circuit) (Belser, fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32) on which the response message is received at the source (first CE) device (Arndt, col. 2, lines 22-31).

Regarding claim 22, Hama, Arndt and Belser combined describe all limitations set forth in claim 20. Arndt further describes that the address resolution method (for Hama's CE-PE interface) is intended for Ethernet network (col. 1, lines 32-42). Hence the PE interface is inherently an Ethernet interface.

Regarding claim 23, Hama, Arndt and Belser combined describe all limitations set forth in claim 22. Ardnt further describes that the address resolution request and response messages are inherently messages of a standard Ethernet Address Resolution Protocol (ARP) (col. 1, lines 32-42 and col. 2, lines 25-31).

Regarding claim 25, Hama describes a customer edge (CE) device (fig. 27, 25-28) for a virtual private network (VPN) (fig. 27, VPNs A & B) provided through a shared network infrastructure (fig. 27, MPLS network #11), comprising:

a provider edge (PE) interface (fig. 27, #12-14, 25-28), [each] having a single layer 3 address (fig. 26, routers' network addresses of 192.168.0.x, 192.168.1.x and ZZZ.ZZZ.Z.Z) in the VPN, for connection to the shared network infrastructure (fig. 27, MPLS network #11), where the PE interface supporting a multiplex of layer 2 virtual circuits (paragraphs 3 and 30, where the VPN supports different VLAN-based layer 2 MAC frames), wherein each of the MAC frames (layer 2 virtual circuits) is distinguished by a respective virtual local area network identifier (VID) included in tagged data frames exchanged through the PE interface (fig. 20, VID field) and is provisioned in the shared

network infrastructure for communication with a respective remote CE device (fig. 27, #24-27) of the VPN (paragraph 30, where VLAN-based VPN supporting layer 2 MAC frames resides (provisioned) in a shared network infrastructure as depicted in fig. 21 and 27).

the CE and PE are edge (inherently layer 3) routers (paragraph 28) for routing packets based on IP layer 3 addresses contained in the packet (paragraph 23).

Hama lacks what Arndt describes:

means for transmitting an address resolution (ARP) request message on each of the layer 2 virtual circuits of the LAN (PE) interface (broadcast), the address resolution request message including a layer 3 address of a remote CE device of the VPN (target IP address) (col. 2, lines 25-29);

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use the standardized ARP protocol as described by Ardnt in the network of Hama. The motivation being that the ARP protocol is used to retrieve and map IP-to-MAC addresses which eliminates latter message broadcasting [in Ethernet] by specifying the destination with an appropriate MAC address.

Hama and Arndt combined lack what Belser describes:

[means responsive to reception of an address resolution (ARP) response message on the PE interface], for memorizing a correspondence (mapping into cache) between the layer 3 (IP) address [of the remote CE devices] and the VID of the layer 2 virtual circuit (MAC address) on which the response message is received (fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the mapping between remote IP and VID for the address resolution. The motivation being that "a VLAN implementation which allows VLAN assignments to end systems [VID mappings], as well as ports, provides a more effective means of LAN groupings", col. 1, lines 42-44.

Regarding claim 26, Hama, Arndt and Belser describe all limitations in claim 25. Hama, Arndt and Belser further describe that the address resolution (ARP) response message includes the layer 3 (IP) address [of the remote CE devices] to be memorized in correspondence (mapping into cache) with the VID of the layer 2 virtual circuit (MAC address) on which the response message is received on the PE interface (fig. 6B, alias (IP) address, VLAN ID, and col. 6, lines 19-32).

Regarding claim 27, Hama, Arndt and Belser combined describe all limitations set forth in claim 25. Arndt further describes that the address resolution method (for Hama's CE-PE interface) is intended for Ethernet network (col. 1, lines 32-42). Hence the PE interface is inherently an Ethernet interface.

Regarding claim 28, Hama, Arndt and Belser combined describe all limitations set forth in claim 27. Ardnt further describes that the address resolution request and response messages are inherently messages of a standard Ethernet Address Resolution Protocol (ARP) (col. 1, lines 32-42 and col. 2, lines 25-31).

7. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hama in view of Arndt and Belser as applied to claim 20 above, and further in view of Mo.

Hama, Arndt and Belser combined describe all limitations in claim 20. Hama, Arndt and Belser lacks what Mo describes:

the VPN has a hub-and-spoke topology, with the PE interfaces (fig. 1, #12 & 14) at a hub site and the remote CE devices (fig. 1, #24, 26, 28) at spoke sites (also described in paragraph 15).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify the hub-and-spoke topology of Mo with the CE (PE interface) at the hub site in the network of Hama, Arndt and Belser. The motivation being that using the hub-and-spoke topology, the network may efficiently perform the following VPN-related task: "The VRF [VPN Routing and Forwarding] table at the hub site distributes all of the routes in its VRF table with a hub attribute that causes the routes to be imported by the spoke sites" (paragraph 5).

Response to Arguments

8. Applicant's arguments filed on 24 February, 2006 regarding the independent claims 1, 11, 20 and 25 have been fully considered but they are not persuasive.

On p. 7, lines 11-22 and p. 8, lines 11-16, the applicant argues that the combined teachings of Hama and Arndt, Hama in particular, describes unique VLAN ID to each customer and hence do not suggest providing a multiplex of layer 2 virtual circuits for communication with remote CE devices with respect to a given CE device. The examiner respectfully disagrees.

The examiner interprets the layer 2 virtual circuits as the individual terminal connections within a VLAN, not the VLAN ID. Hence, Hama does provide a multiplex of layer 2 virtual circuits for communication with remote CE devices (of same VLAN) with respect to a given CE devices.

On p. 8, lines 1-4, the applicant argues that claim 1 requires the address resolution request message to be sent through a PE interface over each layer 2 virtual circuit of a multiplex which is not provided in the combined teachings of Hama and Arndt. The examiner respectfully disagrees.

From the same grounds as the above clarification regarding the examiner's interpretation of the multiplex of layer 2 virtual circuits, the combined teachings of Hama and Arndt describe the address resolution (ARP) message of Arndt to be sent on each of the terminal device connection (layer 2 virtual circuits) of the (same) VLAN (LAN) through the PE device corresponding to the CE device.

On p. 8, lines 5-10, the applicant highlighted that the layer 3 address is mapped to one of the layer 2 virtual circuits on which a response is received and argues that Arndt does not check on which circuit the ARP response was received.

The examiner noted the claim did not include the limitation of "checking on which circuit the ARP response was received". Furthermore, the **combined** teachings of Hama and Arndt, with VLAN (LAN) dispersed between local and remote segments of the network, and where the individual segments have the capability to contain different VLAN (Hama, fig. 18 & 19), inherently requires checking on which circuit the ARP response was received to be appropriately forwarded in a VLAN environment.

Hence the independent claims 1, 11, 20 and 25 are rejectable over the combined teaching of Hama and Arndt.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Wakayama (US 2006/0034292).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 5:30AM - 2:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chau T. Nguyen

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